Amendments to the Claims:

The listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claims 1-11 (canceled)

Claim 12 (currently amended): A method for mapping packets to paths during a current forwarding cycle in a packet switching device, the method comprising:

generating a random index, the random index identifying a current particular path of a plurality of paths in the packet switching device;

starting at the current particular path ~~said identified~~ identified from the random index, for each particular packet of a plurality of packets stored in a recirculation buffer: (a) in response to determining that said particular packet can be sent over the current particular path based on a path occupancy of the current particular path, causing said particular packet to be sent over the current particular path and advancing the current particular path to a next path of the plurality of paths not already mapped for forwarding a packet during the current forwarding cycle, else (b) in response to determining that said particular packet cannot be sent over the current particular path based on the path occupancy of the current particular path: not advancing the current particular path and wherein the particular packet remains in the recirculation buffer for processing during the next forwarding cycle; and

subsequent to the operation of said for each particular packet, while there remains at least one path of the plurality of paths not already mapped for forwarding a packet during the current forwarding cycle and at least one more input packet: identifying a next input packet of said input packets; and if the next input packet can be sent over the current particular path as determined based on a path occupancy of the particular path, then causing said next input packet to be sent over the current particular path and advancing the current particular path to a next path of the plurality of paths not already mapped for forwarding a packet during the current forwarding cycle if any such non-mapped paths remain, else moving said next input packet into the recirculation buffer.

Claim 13 (previously presented): The method of claim 12, wherein said forwarding cycle corresponds to a packet time.

Claim 14 (canceled)

Claim 15 (previously presented): The method of claim 13, wherein the packet time corresponds to a round of sending one packet over each of the plurality of paths.

Claim 16 (original): The method of claim 12, wherein each of the plurality of paths corresponds to a different physical plane of a packet switching system.

Claim 17 (original): The method of claim 12, wherein the plurality of paths does not include all of the planes of a packet switching system.

Claim 18 (original): The method of claim 12, wherein the plurality of paths includes all of the planes of a packet switching system.

Claim 19 (currently amended): One or more computer-readable media tangibly embodying computer-executable instructions for performing operations for mapping packets to paths during a current forwarding cycle in a packet switching device, said operations comprising:

generating a random index, the random index identifying a current particular path of a plurality of paths in the packet switching device;

starting at the current particular path ~~said identified~~ identified from the random index, for each particular packet of a plurality of packets stored in a recirculation buffer: in response to determining that said particular packet can be sent over the current particular path based on a path occupancy of the current particular path, causing said particular packet to be sent over the current particular path and advancing the current particular path to a next path of the plurality of paths not already mapped for forwarding a packet during the current forwarding cycle, else (b) in response to determining that said particular packet cannot be sent over the current particular path based on the path occupancy of the current particular path: not advancing the current particular path and wherein the particular packet remains in the recirculation buffer for processing during the next forwarding cycle; and

subsequent to the operation of said for each particular packet, while there remains at least one path of the plurality of paths not already mapped for forwarding a packet during the current forwarding cycle and at least one more input packet: identifying a next input packet of said input packets; and if the next input packet can be sent over the current particular path as determined based on a path occupancy of the particular path, then causing said next input packet to be sent over the current particular path and advancing the current particular path to a next path of the plurality of paths not already mapped for forwarding a packet during the current forwarding cycle if any such non-mapped paths remain, else moving said next input packet into the recirculation buffer.

Claims 20-30 (canceled)

Claim 31 (previously presented): The method of claim 12, wherein if said particular packet is not determined that it can be sent over the current particular path, said particular packet is moved to the end of the recirculation buffer.

Claim 32 (previously presented): The computer-readable media of claim 19, wherein said operations include moving said particular packet to the end of the recirculation buffer if said particular packet is not determined that it can be sent over the current particular path.

Claim 33 (currently amended): An apparatus for mapping packets to paths during a current forwarding cycle in a packet switching device, the apparatus comprising:

means for generating a random index, the random index identifying a current particular path of a plurality of paths in the packet switching device;

means for, starting at the current particular path ~~said identified~~ identified from the random index, processing each particular packet of a plurality of packets stored in a recirculation buffer, said processing including: in response to determining that said particular packet can be sent over the current particular path based on a path occupancy of the current particular path, causing said particular packet to be sent over the current particular path and advancing the current particular path to a next path of the plurality of paths not already mapped for forwarding a packet during the current forwarding cycle, else (b) in response to determining that said particular packet cannot be sent over the current particular path based on the path occupancy of the current particular path: not advancing the current particular path and wherein the particular packet remains in the recirculation buffer for processing during the next forwarding cycle; and

means for assigning packets to remaining unused paths subsequent to said processing each particular packet, said operation of assigning including: while there remains a path of the plurality of paths not already mapped for forwarding a packet during the current forwarding cycle and at least one more input packet: (a) identifying a next input packet of said input packets; and (b) if the next input packet can be sent over the current particular path as determined based on a path occupancy of the particular path, then causing said next input packet to be sent over the current particular path and advancing the current particular path to a next path of the plurality of paths not already mapped for forwarding a packet during the current forwarding cycle if any such non-mapped paths remain, else moving said next input packet into the recirculation buffer.

Claim 34 (currently amended): An apparatus for mapping packets to paths during a current forwarding cycle in a packet switching device, the apparatus comprising: a plurality of paths; a recirculation buffer; and control logic;

wherein the control logic is configured to:

acquire a random index, the random index identifying a current particular path of the plurality of paths in the packet switching device;

starting at the current particular path ~~said identified~~ identified from the random index, for each particular packet of a plurality of packets stored in the recirculation buffer: in response to determining that said particular packet can be sent over the current particular path based on a path occupancy of the current particular path, causing said particular packet to be sent over the current particular path and advancing the current particular path to a next path of the plurality of paths not already mapped for forwarding a packet during the current forwarding cycle, else (b) in response to determining that said particular packet cannot be sent over the current particular path based on the path occupancy of the current particular path: not advancing the current particular path and wherein the particular packet remains in the recirculation buffer for processing during the next forwarding cycle; and

subsequent to the operation of said for each particular packet, while there remains at least one path of the plurality of paths not already mapped for forwarding a packet during the current forwarding cycle and at least one more input packet: identifying a next input packet of said input packets; and if the next input packet can be sent over the current particular path as determined based on a path occupancy of the particular path, then causing said next input packet to be sent over the current particular path and advancing the current particular path to a next path of the plurality of paths not already mapped for forwarding a packet during the current forwarding cycle if any such non-mapped paths remain, else moving said next input packet into the recirculation buffer.

Claim 35 (previously presented): The apparatus of claim 34, wherein said forwarding cycle corresponds to a packet time.

Claim 36 (previously presented): The apparatus of claim 35, wherein the packet time corresponds to a round of sending one packet over each of the plurality of paths.

Claim 37 (previously presented): The apparatus of claim 34, comprising a plurality of physical planes through the packet switching device; wherein each of the plurality of paths corresponds to a different physical plane of the plurality of physical planes.

Claim 38 (previously presented): The apparatus of claim 34, comprising a plurality of physical planes through the packet switching device; wherein the plurality of paths does not include all of the planes of the plurality of physical planes.

Claim 39 (previously presented): The apparatus of claim 34, comprising a plurality of physical planes through the packet switching device; wherein the plurality of paths includes all of the plurality of physical planes.

Claim 40 (previously presented): The apparatus of claim 34, wherein if said particular packet is not determined that it can be sent over the current particular path, said particular packet is moved to the end of the recirculation buffer.

Claims 41-42 (canceled)